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COMPENSATION FOR VARIABILITY IN SPECIFIC BINDING
IN QUANTITATIVE ASSAYS

BACKGROUND OF THE INVENTION

Quantitative analysis of cells and analytes in fluid samples, particularly
5 bodily fluid samples, often provides critical diagnostic and treatment information for
physicians and patients. Quantitative immunoassays utilize the specificity of the antigen
(Ag) - antibody (Ab) reaction to detect and quantitate the amount of an Ag or Ab in a
sample. In solid phase immunoassays, one reagent (e.g., the Ag or Ab) is attached to a
solid surface, facilitating separation of bound reagents or analytes from free reagents or
10 analytes. The solid phase is exposed to a sample containing the analyte, which binds to
its Ag or Ab; the extent of this binding is quantitated to provide a measure of the analyte
concentration in the sample. Transduction of the binding event into a measurable
signal, however, is affected by a number of interferences, such as variability in binding
of components of the assay, which are not associated with the presence or amount of the
15 analyte. These interferences limit the specificity and applicability of quantitative
immunoassays.

SUMMARY OF THE INVENTION

The invention relates to methods of measuring the amount of an analyte of
interest in a fluid sample, using a solid phase assay such as a quantitative